

## Remarks

Claims 23 - 29 have been rejected under 35 U.S.C. § 112 ¶2 as indefinite. The Office appears to indicate that claims 23 - 29 should not include sand as an ingredient. Applicants respectfully submit that this is not the case.

Claim 23 recites, in its preamble, "a jointing composition suitable for use in the process of claim 11, consisting essentially of . . . c) sand. . ." This language mirrors the language of claim 11, which recites "forming a jointing composition by adding a binder to dry sand . . ." Thus, it is clear that the jointing composition of claim 11 includes sand, as does the jointing composition of claim 23. The claims are addressed to one of ordinary skill in the art, to whom claims 23 - 29 are clearly definite and fully satisfy the requirements of 35 U.S.C. § 112 ¶2. Withdrawal of the rejection of these claims under § 112 ¶2 is respectfully solicited.

Claims 11 - 14, and 23 - 25 have been rejected under 35 U.S.C. § 103(a) as unpatentable over commonly assigned and copending U.S. patent 6,605,663, to *Weitzel*. This patent is a reference only under 35 U.S.C. § 102(e), is commonly assigned, and both the subject matter of *Weitzel* and the claimed invention, at the time the claimed invention was made, were subject to an obligation of assignment to Wacker Polymer Systems GmbH & Co. KG. Thus, *Weitzel* cannot be used in a rejection under 35 U.S.C. § 103(a) per 35 U.S.C. § 103(c).

However, the claimed invention is also patentable over *Weitzel*, regardless. *Weitzel* is directed to a very specific polymerization method for producing polyvinyl alcohol-stabilized addition polymers. Such polymers have been used for many years as additives to hydraulically settable cements and mortars, for example those based on Portland cement, lime, or gypsum plaster.

Sand is not a mortar nor a hydraulically settable composition. All hydraulically settable compositions have in common the presence of a hydraulically settable inorganic binder, always present in large amount. The polymer aids flexibility of the cured mortar or cement.

Applicants' claims recite that the binder "consist essentially of" the claimed polymers. This transitional phrase prohibits the addition of additional binders which would materially affect the basic and novel characteristics of the composition. *See, e.g.* MPEP § 2111.03. Hydraulically settable inorganic binders are just such binders, i.e. would materially, and drastically, affect the basic and novel characteristics of the jointing composition.

The subject invention is directed to jointing sand. For example, in cobblestone streets, brick driveways, patios, and walkways, sand is often swept into joints. However, since there is no binder, the sand can settle and wash away. In the past, cements such as Portland cement or lime have been added to the dry sand before it is swept into the joint. The hydraulically settable jointing composition is then moistened, and the cement causes the jointing composition to set to a hard brittle solid. This set composition is subject to cracking and disintegration by freeze thaw cycles, heavy traffic, ground settling, etc., but once cracked or disintegrated, cannot be reset.

In contrast, the subject invention jointing compositions, which contain no hydraulic binders in any amount which would materially affect the basic and novel characteristics of the jointing composition, but instead contain the claimed redispersible polymer binders, are far more flexible and thus less subject to the types of damage discussed previously. Most importantly, if damage does occur, the joint can be rewet and reset. Cementitious compositions do not do this, and such hydraulically settable binders would modify the composition such that cracking is pronounced and resettability is not possible. These materials clearly substantially and materially alter the basic and novel characteristics of the composition. Thus, jointing compositions such as mortars and cements are not within the scope of the claims due to the "consisting essentially of" language which precedes the word "binder." Please note that this language limits only the binder. Nor does the earlier use of "comprising" in the claim trump the legally recognized meaning of "consisting essentially of", just as a Markush group is limited to its members by the "consisting of" language despite a general transitional phrase such as "comprising" following the preamble. The MPEP may be consulted in this regard.

*Weitzel* does not teach or suggest that any of his polymers are suitable for jointing sand, and in fact many of his disclosed compositions are not suitable. The claimed invention does not employ polymers generally, but rather employs specific polymers. *Weitzel* does not direct the skilled artisan to the claimed polymers. For example, the methylol-functional monomers which are required in the a) polymers are only optional monomers in *Weitzel*, and no examples contain them. Moreover, the polymers of *Weitzel* are (meth)acrylate polymers which contain but limited amounts of comonomers. Applicants' polymers are principally of other monomers, which may contain small amounts of methacrylate comonomers. This is the understanding of one skilled in the art, who views the claimed polymers and those of *Weitzel* as essential opposites.

Withdrawal of the rejection of claims 11 - 14 and 23 - 25 over *Weitzel* under 35 U.S.C. § 103(a) is respectfully solicited for the above reasons.

Claims 11, 15 - 19, 22 - 23, and 27 - 29 have been rejected under 35 U.S.C. § 103(a) over Weitzel et al. U.S. 6,262,167 ("*Weitzel II*"). *Weitzel II* discloses protective colloids which are unsaturated polyester or polyamide polymers. These polymers are prepared by reacting an unsaturated dicarboxylic acid or its anhydride with a polyol (diol) in the case of polyesters, or a polyamine (diamine) in the case of polyamides. During the courses of polyesterification and polyamidization, the carboxylic acid groups are consumed, forming the respective ester and amide linkages. Hence, the only possible remaining carboxylic acid groups are at the chain termini, and only then if an excess of dicarboxylic acid is employed. As a result, the percentage of remaining acid groups is exceptionally small.

*Weitzel II*, like *Weitzel*, discloses use of his products as additives in hydraulically settable mortars and cements, but not as a binder for sand without the use of hydraulically settable binders. The "consisting essentially of" language relative to the binder component precludes the use of cementitious binders, as previously discussed with reference to *Weitzel*. The rejection over *Weitzel II* should be respectfully withdrawn for this reason.

However, the claims also require that component b) contain, as a protective colloid, a polymer of ethylenically unsaturated mono- or dicarboxylic acids having a carboxylic acid content of 50 - 99 mol%. The protective colloids of *Weitzel II* do not meet this claim limitation, as in *Weitzel II*, the carboxylic acid groups of the monomers are consumed by esterification or amidization, and hence substantially no acid groups are left. *Weitzel II* could not construct a polymer having even 10 mol % of acid groups. Withdrawal of the rejection over *Weitzel II* is respectfully solicited for this additional reason.

The same arguments apply with even greater force to claims 18 and 19, which require from 80 - 99 mol% carboxylic acid groups. For claims 16, 17, and 28, polyacrylic acid, polymethacrylic acid, or mixtures thereof are used as the protective colloid. These polymers are homopolymers of acrylic acid and methacrylic acid. *Weitzel II* does not disclose, teach, or suggest any such polymers. All his polymers are polyesters or polyamides. These claims are separately patentable.

Withdrawal of all rejections of record is respectfully solicited. It is noted that claims 20 and 21 have not been rejected, and claim 26 has not been rejected over the prior art.

Applicants submit that the claims are now in condition for Allowance, and respectfully request a Notice to that effect. If the Examiner believes that further discussion will advance the prosecution of the Application, the Examiner is highly encouraged to telephone Applicants' attorney at the number given below.

Please charge any fees or credit any overpayments as a result of the filing of this paper to our Deposit Account No. 02-3978.

Respectfully submitted,

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